REMARKS

Claim 1 has been cancelled. Claims 2-31 have been added. Claims 2-31 remain in the case for reconsideration. No new subject matter has been added. Reconsideration is requested.

Accordingly, applicant requests that the amendments be entered and the application be allowed.

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE SPECIFICATION

Please replace the paragraph beginning at page 5, line 5 with the following rewritten paragraph:

-- The system controller 24 manages and monitors the components in DASA stack 12 and also serves as the primary Network Timer Protocol (NTP) clock source for the members of the DASA stack 12. A modem 27 is used to send management data extracted from the DASA components to a central network manager (not shown). The system controller 24 is used for out of band access to all DASA components. The system controller features a triple redundant path to each component: primary interconnect, secondary interconnect, serial connection. --

Please replace the paragraph beginning at page 8, line 13 with the following rewritten paragraph:

-- The network switches 18 and 20 are designed to connect together a large number of devices at the same time. Therefore, the DASA is easily scaled to add any number of NASs 32 or routing engines 22 to the DASA 12. The interconnect switches 18 and 20 in one embodiment use LAN interfaces that are the common interface used by the different NASs 32 and routing engines 22. The LAN interfaces allow almost any commercially available NAS or router [can] to be incorporated into DASA 12. The DASA 12 also allows the primary and secondary interconnects 18 and 20 to be easily upgraded with new switching technology that may provide more ports with faster LAN connections. --

Please replace the paragraph beginning at page 9, line 13 with the following rewritten paragraph:

-- Referring to FIG. 5, for multi-link calls, the NAS stack 16 is configured into a stack group using a Stack Group Bidding Protocol (SGBP). SGBP is a protocol that binds selectable [NAS] NASs 32 in the NAS stack [22] 16 into a single logical access server. Multi-link calls are then distributed across different chassis within the NAS stack 16. This arrangement encompasses all the multi-link functions, packet fragmentation and packet reassembly within the NAS stack 16. The SGBP is described in detail in co-pending patent application Ser. No. 08/846,788 entitled: DYNAMIC BIDDING PROTOCOL FOR

CONDUCTING MULTILINK SESSIONS THROUGHOUT DIFFERENT PHYSICAL TERMINATION POINTS filed April 30, 1997 which is herein incorporated by reference. --

Please replace the paragraph beginning at page 10, line 28 with the following rewritten paragraph:

-- Without primary or secondary interconnect 18 or 20, all NASs 32 would have to contend over the same network for communicating with each other and also with the routing engines 22. The primary and secondary interconnects 18 and 20 allow multiple pairs of NASs 32 to communicate to each other at the same time. Even more significant, the primary and secondary interconnects 18 and 20 allow anyone of the NASs 32 to communicate with the routing engines 22 while the other NASs 32 communicate with each other in parallel. This provides the substantial advantage of allowing the NASs 32 to perform the multilink PPP sessions independently of the data transfer process between the NAS stack 16 and routing engines 26. The transfer of information between the NAS stack 16 and the routing engines 22 is therefore more efficient, because the multilink packets have already been bundled together into one packet stream before being sent to routing engines 22. --

Please replace the paragraph beginning at page 11, line 24 with the following rewritten paragraph:

-- For regulatory or technical reason, some telephone companies require separate network paths for network management traffic and for data payload traffic. The system controller 24 provides these separate network paths 21 for management traffic. The serial connection [23] 25 is coupled to each NAS 32 in the NAS stack 16 for system debugging. The NAS stack 16 would typically not be accessible if the primary and secondary interconnects 18 and 20 both went down. The serial connection [23] 25 provides a separate out of band link to NAS stack 16 for debugging the DASA system 12. --

IN THE CLAIMS

Prior to examination, please cancel claim 1.

Please add the following new claims 2-31:

2. (New) A dial access system, comprising:

multiple network access servers; and

a primary interconnect configurable to establish multiple parallel communication links with the network access servers, the multiple parallel links enabling parallel information transfer between multiple combinations of the multiple network access servers at the same time.

3. (New) A system according to claim 2 wherein the primary interconnect includes multiple parallel switching circuits configured to connect multiple pairs of the network access servers.

4. (New) A system according to claim 2 wherein the primary interconnect includes at least one port coupled to a routing engine, the primary interconnect connecting different ones of the network access servers to the routing engine while in parallel connecting together combinations of other network access servers.

5. (New) A system according to claim 2 including a buffer for storing packets transferred over the communication links.

6. (New) A system according to claim 2 wherein the multiple network access servers include dial up ports for receiving dial-up calls and secondary ports coupled to the primary interconnect.

7. (New) A system according to claim 2 wherein the primary interconnect includes multiple Local Area Network (LAN) interfaces coupled to the network access servers.

8. (New) A system according to claim 2 including a secondary interconnect configured to establish multiple parallel communication links with the network access servers.

9. (New) A method for connecting network processing devices together, comprising:

coupling the network processing devices together through a primary interconnect;

establishing multiple parallel connections in the primary interconnect between different pairs of the network processing devices; and

transferring information between the different pairs of network processing devices through the multiple parallel connections established by the primary interconnect.

10. (New) A method according to claim 9 including establishing at least one of the parallel connections between one of the network processing devices and a routing engine and passing information between different pairs of the network processing devices while another one of the network processing devices in parallel transfers information with the routing engine.

11. (New) A method according to claim 9 including:

coupling the network access servers together through a secondary interconnect;

establishing multiple parallel connections in the secondary interconnect between different pairs of the network processing devices; and

transferring information in parallel between the different pairs of network processing devices over the multiple parallel connections established by the secondary interconnect.

12. (New) A method according to claim 9 including:

monitoring call activity data for the network processing devices;

storing the monitored call activity data; and

configuring the primary interconnect according to the stored call activity data.

13. (New) The method according to claim 9 including:

establishing members of a stack group from the multiple network processing devices;

establishing multiple links to the stack group members that operate together as a multilink bundle;

bidding from the stack group members for mastership of the multilink bundle;

assigning one of the stack group members making a highest bid as a bundle master;

forwarding data on the multiple links in the bundle to the bundle master; and

conducting a multilink session with the bundle master.

14. (New) The method according to claim 9 including:

establishing multiple links over a circuit switched network with the network processing devices;

extracting payload packet fragments from the multiple links with the network processing devices;

transferring the payload packet fragments between the network processing devices through the primary interconnect to a common one of the network processing devices;

assembling the payload packet fragments into one continuous packet stream with the common one of the network processing devices; and

sending the continuous packet stream from the common one of the network processing devices through the packet processing device to a packet-switched network.

15. (New) A system for connecting network processing devices together, comprising:

means for coupling the network processing devices together through a primary interconnect;

means for establishing multiple parallel connections in the primary interconnect between different pairs of the network processing devices; and

means for transferring information between the different pairs of network processing devices over the multiple parallel connections established by the primary interconnect.

16. (New) A system according to claim 15 including:

means for establishing at least one of the parallel connections between one of the network processing devices and a routing engine; and

means for passing information between different pairs of the network processing devices while another one of the network processing devices transfers information with the routing engine.

17. (New) A system according to claim 15 including:

means for coupling the network access servers together through a secondary interconnect;

means for establishing multiple parallel connections in the secondary interconnect

between different pairs of the network processing devices; and

means for transferring information in parallel between the different pairs of network processing devices over the multiple parallel connections established by the secondary interconnect.

18. (New) A system according to claim 15 including:

means for monitoring call activity data for the network processing devices;

means for storing the monitored call activity data; and

means for configuring the primary interconnect according to the stored call activity data.

19. (New) The system according to claim 15 including:

means for establishing members of a stack group from the multiple network processing devices;

means for establishing multiple links to the stack group members that operate together as a multilink bundle;

means for bidding from the stack group members for mastership of the multilink bundle;

means for assigning one of the stack group members making a highest bid as a bundle master;

means for forwarding data on the links in the bundle to the bundle master; and

means for conducting the multilink session with the bundle master.

20. (New) The system according to claim 15 including:

means for establishing multiple links over a circuit switched network with the network processing devices;

means for extracting payload packet fragments from the multiple links with the network processing devices;

means for transferring the payload packet fragments between the network processing devices through the primary interconnect to a common one of the network processing devices;

means for assembling the payload packet fragments into one continuous packet stream

with the common one of the network processing devices; and

means for sending the continuous packet stream from the common one of the network processing devices through the packet processing device to a packet-switched network.

21. (New) An article comprising a machine-accessible medium having associated data that, when accessed, results in the following:

coupling network processing devices together through a primary interconnect;

establishing multiple parallel connections in the primary interconnect between different pairs of the network processing devices; and

transferring information between the different pairs of network processing devices over the multiple parallel connections established by the primary interconnect.

22. (New) The machine-accessible medium of claim 21 including establishing at least one of the parallel connections between one of the network processing devices and a routing engine and passing information between different pairs of the network processing devices while another one of the network processing devices transfers information with the routing engine.

23. (New) The machine-accessible medium of claim 21 including:

coupling the network access servers together through a secondary interconnect;

establishing multiple parallel connections in the secondary interconnect between different pairs of the network processing devices; and

transferring information in parallel between the different pairs of network processing devices over the multiple parallel connections established by the secondary interconnect.

24. (New) The machine-accessible medium of claim 21 including:

monitoring call activity data for the network processing devices;

storing the monitored call activity data; and

configuring the primary interconnect according to the stored call activity data.

25. (New) The machine-accessible medium of claim 21 including:

establishing members of a stack group from the multiple network processing

devices;

establishing multiple links to the stack group members that operate together as a multilink bundle;

bidding from the stack group members for mastership of the multilink bundle;

assigning one of the stack group members making a highest bid as a bundle master;

forwarding data on the links in the bundle to the bundle master; and

conducting the multilink session with the bundle master.

26. (New) The machine-accessible medium of claim 21 including:

establishing multiple links over a circuit switched network with the network processing devices;

extracting payload packet fragments from the multiple links with the network processing devices;

transferring the payload packet fragments between the network processing devices through the primary interconnect to a common one of the network processing devices;

assembling the payload packet fragments into one continuous packet stream with the common one of the network processing devices; and

sending the continuous packet stream from the common one of the network processing devices through the packet processing device to a packet-switched network.

27. (New) An interconnect device, comprising:

an interface including multiple ports for establishing independent communication links with multiple network processing devices; and

circuitry configurable to establish multiple parallel connections between the communication links established with the network processing devices, the multiple parallel connections enabling parallel information transfer between the network processing devices.

28. (New) An interconnect according to claim 27 wherein the circuitry includes multiple parallel switching circuits configured to connect multiple pairs of the communication links together in parallel.

29. (New) An interconnect according to claim 27 wherein the interface includes

multiple ports coupled to network access servers and at least one port coupled to a routing engine, the circuitry connecting at least one of the network access servers to the routing engine while in parallel connecting together combinations of other network access servers.

30. (New) An interconnect according to claim 27 including a buffer for storing packets transferred over the communication links.

31. (New) An interconnect according to claim 27 wherein the ports comprise Local Area Network (LAN) ports.